

## **REMARKS**

### **I. Introduction**

Claims 21 to 42 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

### **II. Rejection of Claim 29 Under 35 U.S.C. § 112, Second Paragraph**

Regarding the rejection of claim 29 under 35 U.S.C. § 112, second paragraph, although the merits of this rejection are not necessarily agreed with, to facilitate matters, “low-value” has been changed to --least-significant--, and “high-value” has been changed to --most-significant--. Regarding “fractional proportion,” the Examiner’s attention is respectfully directed to lines 4 to 5 of claim 29, which plainly recite “a fractional proportion **of the address values**” rather than a fractional proportion of an address sequence or a fraction of a bit.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

### **III. Rejection of Claims 21 to 24, 26, 27, and 30 to 40 Under 35 U.S.C. § 103(a)**

Claims 21 to 24, 26, 27 and 30 to 40 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of U.S. Patent No. 5,079,549 (“Liessner”) and U.S. Patent No. 5,134,578 (“Garverick et al.”). It is respectfully submitted that the combination of Liessner and Garverick et al. does not render unpatentable the present claims for at least the following reasons.

As an initial matter, it is noted that claims 41 and 42 are not specifically mentioned in the statement of the present rejection appearing on page 5 of the Final Office Action, although these claims are mentioned on page 10 of the Final Office Action. Thus, it is assumed that claims 41 and 42 were intended to be included in the statement of rejection, and these claims are addressed as though rejected. Clarification is nevertheless respectfully requested so that the record is clear.

As stated in the Amendment filed on June 2, 2008, the entire functionality and structure described by Liessner is **analog** and not in any manner **digital**. In this regard, Liessner describes that the input signal to the system is an

**analog** representation of a displacement and that an encoder 10 provides **analog** signals to multipliers 12, 14. Col. 3, lines 15 to 21. Liessner further describes that each multiplier 12, 14 provides an **analog** signal to adder 20. Col. 3, lines 41 to 44. Thus, there is no disclosure, or even any suggestion, by Liessner of converting analog signals, which are generated by scanning a measuring scale, into a digital data stream by a sigma-delta modulator or otherwise. Furthermore, the only conversion described by Liessner between analog and digital signals is in connection with multipliers 12, 14, which are described by Liessner as being **digital-to-analog** (not **analog-to-digital**) converters that cause a **digital input** to attenuate an analog current reference signal. Thus, Liessner in no manner describes, or even suggests, an **analog-to-digital** conversion. Indeed, even the output signal ES is described by Liessner as being an **analog** error signal. Col. 3, lines 43 to 44. There is no discussion whatsoever by Liessner of whether, how or even why any of the **analog** devices might be modified to **digital** devices or whether or how **digital** data streams might be handled. Moreover, Applicant respectfully maintains that the proposed modification would change the entire principle of operation of the resolver described by Liessner, e.g., the modification would require substantial reconstruction and redesign of the components described by Liessner as well as a change in the basic principle under which the device described by Liessner is designed to operate. As such, the proposed modification is insufficient to render obvious the present claims. In re Ratti, 270 F.2d 810, 123 U.S.P.Q. 349 (C.C.P.A. 1959) (if the proposed modification would change the principle of operation of a prior art device being modified, then the references are insufficient to render the claims prima facie obvious). Moreover, the mere reference to sigma-delta analog to digital converters in Garverick et al. does not in any manner cure the critical deficiencies set forth above.

Furthermore, Liessner does not disclose, or even suggest, accumulating, over a specifiable time interval, values of strings of results for generating correction values and output signals. As described, for example, in col. 3, line 41 to col. 4, line 64 and with reference to Figure 6, generation of counting signals is only based on the value of the analog error signal ES and **not** in any manner upon a time interval. In this regard, the following possibilities exist according to Liessner: (1) if the value of the error signal ES is inside of the dead zone, i.e., between +REF.1 and -REF.1, no counting occurs; (2) if the value of the error signal

ES is between +REF.1 and +REF.2 or between -REF.1 and -REF.2, i.e., within the single step zone, slow count pulses are generated; and (3) if the value of the error signal ES is greater than +REF.2 or lower than -REF.2, i.e., in the multi-step zone, fast count pulses are generated. However, a change from one zone to another only depends upon the value of the analog error signal. That there is no disclosure by Liessner of accumulation, over a specifiable time interval, the Examiner's attention is respectfully directed to, e.g., col. 4, lines 39 to 41 to 43, which state that "the asynchronous count generator 24 operates **without employing a clock signal**" and that "the circuitry of generator 24 responds promptly to an incoming signal from an output of the detector 22." The foregoing makes perfectly clear that Liessner does not disclose, or even suggest, accumulating, over a specifiable time interval, values of a string of results for generating correction values and output signals as recited in claim 21. Liessner does not disclose, or even suggest, the accumulating recited in claim 41 or the filter recited in claims 40 and 42 for analogous reasons.

Based on the foregoing, it is plainly apparent that the combination of Liessner and Garverick et al. does not disclose, or even suggest, all of the features included in claims 21 and 40 to 42. As such, the combination of Liessner and Garverick et al. does not render unpatentable claims 21 and 40 to 42.

While the Final Office Action contends that "[o]ne skilled in the art would be . . . motivated to complete the conversion because of the advantages provided by digital implementations of analog devices," the Final Office Action plainly fails to adequately set forth a prima facie case of obviousness based upon a motivation-to-combine rationale consistent with KSR or the Guidelines. As stated in the Guidelines, to reject a claim based on a motivation-to-combine rationale, Office personnel **must** resolve the Graham factual inquiries **and then** articulate: (1) a finding that there was some teaching, suggestion, or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine the reference teachings; (2) a finding that there was a reasonable expectation of success; **and** (3) whatever additional findings based on the Graham factual inquiries may be necessary, in view of the facts of the case under consideration, to explain a conclusion of obviousness. The Final Office Action has completely failed in this regard. Accordingly, a prima facie case of obviousness has not been adequately set forth in the Office Action.

Thus, in view of all of the foregoing, it is respectfully submitted that the combination of Liessner and Garverick et al. does not render unpatentable claims 21, and 40 to 42.

As for claims 22 to 24, 26, 27 and 30 to 39, which ultimately depend from and therefore include all of the features included in claim 21, it is respectfully submitted that the combination of Liessner and Garverick et al. does not render unpatentable these dependent claims for at least the reasons more fully set forth above in support of the patentability of claim 21.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

#### **IV. Rejection of Claim 25 Under 35 U.S.C. § 103(a)**

Claim 25 was rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Liessner, Garverick et al. and that which the Final Office Action considers to constitute admitted prior art. As an initial matter, Applicant does not necessarily agree with the contention that the Specification contains an admission that “low-pass filtering and assignment of the address values is well known in the art.” Notwithstanding the foregoing, it is respectfully submitted that the combination of Liessner, Garverick et al. and the alleged admitted prior art does not render unpatentable claim 25 for the following additional reasons.

Claim 25 ultimately depends from and therefore includes all of the features included in claim 21. As more fully set forth above, the combination of Liessner and Garverick et al. does not render unpatentable claim 21, from which claim 25 ultimately depends. The alleged admitted prior art does not cure the critical deficiencies of the combination of Liessner and Garverick et al. As such, the combination of Liessner, Garverick et al. and the alleged admitted prior art does not render unpatentable claim 25, which ultimately depends from claim 21. In re Fine, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988) (any dependent claim that depends from a non-obvious independent claim is non-obvious).

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

**V. Rejection of Claims 28 and 29 Under 35 U.S.C. § 103(a)**

Claims 28 and 29 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of Liessner, Garverick et al. and U.S. Patent Application Publication No. 2002/0116181 ("Khan et al."). It is respectfully submitted that the combination of Liessner, Garverick et al. and Khan et al. does not render unpatentable claims 28 and 29 for at least the following reasons.

Claims 28 and 29 ultimately depend from and therefore include all of the features included in claim 21. As more fully set forth above, the combination of Liessner and Garverick et al. does not render unpatentable claim 21, from which claims 28 and 29 ultimately depend. Khan et al. do not cure the critical deficiencies of the combination of Liessner and Garverick et al. As such, the combination of Liessner, Garverick et al. and Khan et al. does not render unpatentable claims 28 and 29, which ultimately depend from claim 21. Id.

In view of all of the foregoing, withdrawal of this rejection is respectfully requested.

**VI. Conclusion**

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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